

Table 6.5 Types of test tool

Tool type	ISTQB Syllabus classification	Activity in fundamental test process where it is usually most beneficial	ISTQB Glossary of Testing Terms definition	Most likely users
Test Management tool	Management of testing and tests	All activities	A tool that provides support to the test management and control part of a test process. It often has several capabilities, such as testware management, scheduling of tests, the logging of results, progress tracking, incident management and test reporting.	Testers
Incident management tool	Management of testing and tests	Implementation and execution	A tool that facilitates the recording and status tracking of defects. These tools often have workflow-oriented facilities to track and control the allocation, correction and retesting of defects and provide reporting facilities. Also known as defect-tracking tools.	Various, but particularly testers
Requirements management tool	Management of testing and tests	Analysis and design	A tool that supports the recording of requirements, requirements attributes (e.g. priority, knowledge responsible) and annotation, and facilitates traceability through layers of requirements and requirements change management. Some requirements management tools also provide facilities for static analysis, such as consistency checking and violations to predefined requirements rules.	Various, but particularly business analysts

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Configuration management tool	Management of testing and tests	Implementation and execution	Not defined.	Various
Review tool	Static testing	Implementation and execution	A tool that provides support to the review process. Typical features include review planning and tracking support, communication support, collaborative reviews and a repository for collecting and reporting of metrics.	Various
Static analysis tools	Static testing	Implementation and execution	Performs and supports analysis of software artifacts, e.g. requirements or code, carried out without execution of these software artifacts.	Developers
Modelling tools	Static testing	Implementation and execution	Not defined.	Developers
Test design tools/script generators	Test specification	Analysis and design	A tool that supports the test design activity by generating test inputs from a specification that may be held in a CASE tool repository, e.g. requirements management tool, or from specified test conditions held in the tool itself.	Testers
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Test oracles (considered to be a subset of test design tools)	Test specification	A analysis and design	A source to determine expected results to compare with the actual result of the software under test. An oracle may be the existing system (for a benchmark), a user manual, or an individual's specialised knowledge, but should not be the code.	Testers
Test (input) data preparation tools	Test specification	Analysis and design	A type of test tool that enables data to be selected from existing databases or created, generated, manipulated and edited for use in testing.	Various
Test execution/ test running tools	Test execution and logging	Implementation and execution	A type of test tool that is able to execute other software using an automated test script, e.g. capture/playback.	Testers
Test harness/ unit test framework tools (stubs and drivers)	Test execution and logging	Implementation and execution	A test environment composed of stubs and drivers needed to conduct a test.	Developers
Test comparators	Test execution and logging	Implementation and execution	A test tool used to support and/or automate the process of identifying differences between the actual results produced by the component or system under test and the expected results for a test. Test comparison can be performed during test execution (dynamic comparison) or after test execution.	Testers and developers

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Coverage measurement tools	Test execution and logging	Implementation and execution	A tool that provides objective measures of what structural elements, e.g. statements, branches, have been exercised by a test suite.	Developers
Security tools	Test execution and logging	Implementation and execution	A tool that supports testing to determine the security of the software product. Security is defined as: attributes of software products that bear on its ability to prevent unauthorised access, whether accidental or deliberate, to programs and data.	Security testing specialists
Dynamic analysis tools	Performance and monitoring	Implementation and execution	A tool that provides run-time information on the state of the software code. These tools are most commonly used to identify unassigned pointers, check pointer arithmetic and to monitor the allocation, use and deallocation of memory and to flag memory leaks.	Developers
Performance testing/load testing/stress testing tools	Performance and monitoring	Implementation and execution	A tool to support performance testing and that usually has two main facilities: load generation and test transaction measurement. Load generation can simulate either multiple users or high volumes of input data. During execution, response time measurements are taken from selected transactions and these are logged. Performance testing tools normally provide reports based on test logs and graphs of load against response times.	Performance testing specialists

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Monitoring tools	Performance and monitoring	Implementation and execution	A software tool or hardware device that runs concurrently with the component or system under test and supervises, records and/or analyses the behaviour of the component or system.	Various
Data Quality Assessment tools	Data quality	Implementation and execution	No defined.	Various
Usability tools	Usability	Implementation and execution	Not defined. (Usability Testing is defined as testing to determine the extent to which the software product is understood, easy to learn, easy to operate and attractive to the users under specified conditions.)	Usability Testing specialists
Spreadsheets	Other tools	All activities	Not defined.	Various
SQL	Other tools	Implementation and execution	Not defined.	Various
Project planning/resource	Other tools	Planning and control	Not defined.	Various
Debugging tools	Other tools	Not used for testing activities	A tool used by programmers to reproduce failures, investigate the state of programs and find the corresponding defect. Debuggers enable programmers to execute programs step by step, to halt a program at any program statement and to set and examine program variables.	Developers